

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method ~~for~~ encoding XML content, comprising the ~~acts~~steps of:

converting at least a portion of a document into XML to create an XML stream equivalent to said at least a portion, said XML stream including content nodes; and

introducing, within the XML stream being created, at least one structure node, each introduced structure node being associated with a respective sub-tree within the XML stream being created, the respective sub-tree having at least one of said content nodes, each of the at least one structure node providing a specified list that identifies the at least one content node included in its associated sub-tree~~generating content nodes for transmitting content information of a larger XML document tree; and~~

~~generating at least one structure node that is independent of the content nodes and is associated with a predetermined number of said content nodes and performs a sub-tree wrapper function that indicates a relationship of the at~~

~~least one sub-tree with regard to other independent sub-trees having their own respective structure nodes so as to encode a structure of said at least one respective sub-tree independent of the other sub-trees within a larger XML document tree and for indicating where said content nodes are positioned within at least one respective sub.~~

2. (Currently Amended) The method of claim 1, wherein ~~thesaid~~ content nodes and ~~thesaid~~ structure nodes are generated in accordance with a specified pseudo-code.

3. (Canceled)

4. (Currently Amended) The method of claim 1, wherein a text portion of said XML content is provided in real-time by a user operating a textual input device prior to being encoded into said content nodes.

5. (Currently Amended) The method of claim 1, wherein a text portion of said XML content is provided in real time by a user operating a speech recognition system that converts speech to text prior to being encoded into said content nodes.

6. (Currently Amended) A method of encoding an XML document, said XML document comprised of a plurality of nodes, said method comprising the ~~acts~~steps of:

decomposing said XML document into groups of independent sub-trees of a larger XML document tree, each of said independent sub-trees including at least one respective content node and including a respective independent structure node-associated therewith providing a specified list identifying the at least one content node of the respective sub-tree; and

~~independently transmitting each of said groups~~group  
~~of sub-trees with information indicating how said group of sub-trees is positioned relative to other sub-trees within said larger XML document.~~

7. (Original) The method of claim 6, wherein said decomposing step is performed in accordance with a specified document template.

8. (Currently Amended) The method of claim 6, wherein the act of transmitting includes the act of

~~transmittingsaid,~~ in a structure node, information indicating how each of said groups of sub-trees is positioned within said larger XML document ~~treeis transmitted in a structure node.~~

9. (Previously Presented) The method of claim 6, wherein a text portion of the nodes of said XML document is generated in real-time by a user operating a textual input device.

10. (Previously Presented) The method of claim 6, wherein a text portion of the nodes of said XML document is generated in real-time by a speech recognition system that converts input speech to text.

11. (Currently Amended) A method for transmitting an XML document as a continuous stream, comprising the acts~~steps~~ of:

decomposing said XML document into groups of independent sub-trees of a larger XML document tree;

generating, for each of the groups, content nodes for transmitting content information included in said XML document; and

generating, for each of the groups, ~~at least one~~  
structure node independent of the content nodes ~~and is~~  
~~associated with each group of said independent sub-trees~~, said  
structure node identifying the content nodes included in and  
corresponding to the respective ~~a particular~~ group of  
~~independent sub-trees~~ and indicating where the  
respective ~~particular~~ group of ~~independent sub-trees~~ is  
positioned relative to ~~other~~ others of the groups of ~~independent~~  
~~sub-trees~~ within said larger XML document tree; and  
transmitting the generated nodes to form said  
continuous stream.

12. (Original) The method of claim 11, wherein said  
decomposing step is performed in accordance with a specified  
document template.

13. (Currently Amended) The method of claim 11,  
wherein said structure node includes a list of ~~said~~ the content  
nodes said structure node identifies.

14. (Currently Amended) The method of claim 11, wherein content of said XML document~~content~~ is generated in real-time by a user operating a textual input device.

15. (Currently Amended) The method of claim 11, wherein a text portion of content of said XML document~~content~~ is generated in real time by user-operating a textual input device.

16. (Currently Amended) A method for receiving a streamed XML document, said XML document including content nodes and structure nodes, said method comprising the acts~~steps~~ of:

determining if each received node of the streamed XML document is a content node, or an independent structure node associated with an~~a group of~~ independent sub-trees~~sub-trees~~ of said~~a larger~~ XML document;

processing the~~said~~ content nodes directly; and

recompiling at least some of ~~the independent groups of~~ sub-trees that comprise said XML document from said content nodes by using information contained in said structure node about a position of a particular sub-tree of the larger XML

document relative to other sub-trees in at least one

independent group;

continuing to process subsequent ones of the received nodes even if one of said received nodes is not properly received by an XML receiver, wherein each sub-tree from the XML document is parsed and validated by the XML receiver as though it were an independent tree.

17. (Currently Amended) The method of claim 16, wherein said processing actstep further comprises the actstep of displaying content of said XML document~~content~~.

18. (Currently Amended) The method of claim 16, wherein said processing actstep further comprises the actstep of storing content of said XML document~~content~~.

19. (Canceled)

20. (Currently Amended) A method of decoding a received, streamed XML document, said XML document comprised of a plurality of nodes, said method comprising the steps of:

receiving ~~one or more~~ independent groups of XML sub-trees that comprise said streamed XML document, each group of said sub-trees including at least one structure node independent of ~~the~~ content nodes within the group and indicating how said group is positioned within said ~~larger~~ XML document relative to other groups of sub-trees; and

continuously positioning, using said received position indication, each independent group of sub-trees to reconstitute said~~in a larger XML document to its state before being streamed~~using said received position indication.

21. (Currently Amended) The method of claim 20, further comprising the act~~wherein said processing step further comprises the step of displaying said content~~ of the received XML document.

22. (Currently Amended) The method of claim 20, further comprising the act~~wherein said processing step further comprises the step of storing said content~~ of the received XML document.



23. (Currently Amended) An XML transmitter  
comprising:

a memory for storing XML content and computer  
readable code; and

a processor operatively coupled to said memory, said  
processor configured to:

convert at least a portion of a document into XML to  
create an XML stream equivalent to said at least a portion, said  
XML stream including content nodes; and

introduce, within the XML stream being created, at  
least one structure node, each introduced structure node being  
associated with a respective sub-tree within the XML stream  
being created, the respective sub-tree having at least one of  
said content nodes, each of the at least one structure node  
providing a specified list that identifies the at least one  
content node included in its associated sub-tree

~~generate  
content nodes for transmitting content information; and~~

~~generate at least one structure node that is  
independent of the content nodes and is associated with at  
least one respective sub-tree of said content nodes and  
performs a sub-tree wrapper function that indicates a  
relationship of the at least one sub-tree with regard to other~~

~~independent sub-trees having their own respective structure nodes and for indicating where said content nodes are positioned in the at least one respective sub-tree within a larger XML document tree.~~

24. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

decompose said XML document into a independent groups of sub-trees, each group of sub-trees including at least one respective content node and including a respective independent structure node providing a specified list identifying the at least one content node of the respective sub-tree; and

~~independently transmit each of said groups~~group of  
~~sub-trees with information indicating how each group is positioned within said larger XML document.~~

25. (Currently Amended) An XML transmitter for  
streaming XML, said transmitter comprising:

a memory for storing XML content and computer  
readable code; and

a processor operatively coupled to said memory, said  
processor configured to:

decompose said XML document into independent groups  
of sub-trees;

generate, for each of the groups, content nodes for  
transmitting content information included in said XML document;  
and

generate, for each of the groups, ~~at least one~~  
~~structure node for each group of sub-trees, said structure~~  
~~being independent of the content nodes and is associated with~~  
~~one or more of the, said structure node content nodes for~~  
identifying, at a receiving end, content nodes included in ~~and~~  
corresponding to the respective group of sub-trees and  
~~indicating where each sub-tree group is positioned relative to~~  
~~other groups of sub-trees within said larger XML document; and~~

streaming the generated nodes in a continuously  
transmitted stream.

26. (Previously Presented) An XML receiver for receiving a streamed XML document, said XML document including content nodes and structure nodes, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

determine if each received node is a content node or a structure node,

if said received node is a content node, determining whether said content node is associated with a particular structure node, and

if said received node is a structure node, determining a position of an independent sub-tree of the structure node relative to other independent sub-trees that are unassociated with the structure node;

process said content nodes directly; and

recompile by reconstructing in mid-transmission at least some of the independent sub-trees of the larger XML document tree at a receiving end without receipt of all of the nodes.

said XML document from said content nodes using information contained in said structure node.

27. (Previously Presented) An XML receiver for receiving a streamed XML document, said XML document including content nodes and structure nodes, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

receive a group of XML independent sub-trees, each group of said sub-trees including at least one structure node being independent of the content nodes and is associated with one or more content nodes, said structure node indicating how said sub-tree is positioned relative to other sub-trees within said larger XML document; and

position at least some groups of said sub-trees in a larger XML document tree using said position without receiving all of the nodes transmitted.

28. (Previously Presented) The method according to claim 1, wherein the structure node is transmitted in a transmission independent of the associated content nodes.